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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/348,518	07/07/1999	HIROSHI MURAKAMI	31050.5US01	5347

20985 7590 06/07/2004

FISH & RICHARDSON, PC
12390 EL CAMINO REAL
SAN DIEGO, CA 92130-2081

EXAMINER

BROADHEAD, BRIAN J

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/348,518

Applicant(s)

MURAKAMI ET AL.

Examin r

Brian J. Broadhead

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-31, 35-46, 48 and 49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37, 38 and 41 is/are allowed.
- 6) ☒ Claim(s) 26-29, 35, 36, 39, 40 and 43-46 is/are rejected.
- 7) ☒ Claim(s) 30, 31, 42, 48 and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. In view of the certificate of mailing, on the amendment filed in response to the office action mailed on 6-4-2003, stating that the amendment was deposited with the USPS on 12-4-2003, the Notice of Abandonment was sent in error and prosecution of this application remains open.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 26, 35, 39, and 43, are rejected under 35 U.S.C. 102(e) as being anticipated by Tagami et al., 5812070.

3. As per claims 26 and 35, Tagami et al. discloses a sensor installed on the vehicle for sensing the state of charge of at least one battery on line 65, on column 5, through line 5, on column 6; a vehicle subsystem installed in the vehicle and operatively coupled to the sensor, for transmitting information reflecting the state of charge of at least one

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battery on lines 25-30, on column 4; a central station including a computer system for receiving and processing the information regarding the state of charge of the at least one battery including a tracking system that provides vehicle location information corresponding to the location of each vehicle to allocate vehicles in response to the information regarding the state of charge of at least one battery to effectuate an efficient battery charging operation on lines 37-45, on column 4, and lines 2-16, on column 6.

4. As per claims 39 and 43, Tagami et al. discloses the limitations set forth above; each vehicle comprises an electric powered vehicle having a battery powered source which defines the state of charge of the vehicle on lines 62-65, on column 5; each port includes a charging facility for selectively coupling to a vehicle to increase the state of charge of the vehicle over a charging period on lines 11-16, on column 7; the central station computer system is programmed to process vehicle location information and state of charge information to select a vehicle located at a given port for coupling to the charging facility at that port, based on the state of charge information for the vehicle on lines 11-16, on column 7.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 27, 28, 29, 36, 44, 45, and 46, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagami et al., 5812070, in view of Kondo et al., 6181991.

7. Tagami et al. disclose the limitations as set forth above and the central station is configured to reserve a vehicle or group of vehicles having the highest state of charge for a user with a past usage above a predetermined traveling distance and allocate a vehicle having a second highest state of charge to a user with a past usage below a predetermined traveling distance on lines 63, on column 5 through lines 16, on column

6. Tagami et al. does not disclose the central station is configured to allocate the vehicle having a highest state of charge; and using a current request instead of past usage. Kondo et al. teach the central station is configured to allocate the vehicle having a highest state of charge on lines on lines 15-17, on column 6; and to use a current travel distance on lines 9-34, on column 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the display device and current travel distance of Kondo et al. in the invention of Tagami et al. because such modification would provide an electric vehicle sharing system which is capable of supplying users efficiently with electric vehicles whose batteries have been appropriately charge as stated on lines 50-51, on column 1, of Kondo et al.

8. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tagami et al., 5812070, in view of Henze et al., 5803215.

Tagami et al. disclose all the limitations as set forth above. Tagami et al. do not disclose the central computer system determines a charging order for a plurality of vehicles located at a port based on the stored amount of energy of each vehicle in the

plurality of vehicles. Henze et al. teaches of the central computer system determines a charging order for a plurality of vehicles located at a port based on the stored amount of energy of each vehicle in the plurality of vehicles on lines 35-49, on column 2. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the charging system of Henze et al. in the invention of Tagami et al. because such modification would provide a system that would charge the batteries of the cars and protect them from overcharging as summarized on lines 29-32, on column 2 of Henze et al.

Allowable Subject Matter

9. Claims 37, 38, and 41 are allowed.

10. Claims 30, 31, 42, 48, and 49 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose the central station computer system is further programmed to process vehicle location information for a vehicle due to arrive at a given port, to provide an estimated time of arrival of the vehicle at that port and for including the vehicle in the vehicle search group for that port if the estimated time of arrival is within a predefined time period; including in vehicle search group of a given port the vehicle at a charging facility at the port if the vehicle has a charging time period which is due to expire within a predefined time period; and the charging order of the vehicles is based on the current stored amount of energy, with the lowest being charged

first and the highest last; and said charging facility defines a charging rate for each vehicle as the vehicles increasing SOC over the charging period and wherein the plot of the charging rate of each vehicle includes a generally linear region and a nonlinear section and assigning vehicles to charger if SOC of the vehicle is in the linear region; and determining when the SAE is greater than a predetermined value and the central station generating a first signal in response to the sensed SAE being less than a predefined minimum and then displaying a warning message on the vehicle display device in response to the first signal.

Response to Arguments

12. Applicant's arguments filed 12-4-2003 have been fully considered but they are not persuasive. The argument that Tagami does not disclose allocating vehicles to effectuate an efficient battery charging operation in the fleet is not convincing. Applicant argues that Tagami teaches allocating a vehicle with a low SOC if the past usage history correlates to short distances and that this is not consistent with efficient battery charging. This argument is not convincing because in the applicant's specification allocation schemes where the highest charged vehicle is not allocated first are disclosed as being consistent with efficient battery charging operations. For example on page 14, in the paragraph beginning on line 3, applicant states "The allocation of vehicles can be modified by statistical or simulated vehicle use in order to make the most efficient use of charging facilities, while at the same time attempting to accommodate the need for vehicles with high state of charge for long trips."

13. The second argument states that claim 26 recites that the state of charge can be monitored by a central station at any time. The limitation "at any time" is not in the claim. Even if that limitation were in the claim, Tagami discloses a communication installation (A in Figure 1) that is capable of communication with the vehicles at any time.

14. Applicant's arguments with respect to claims 28, 29, 45, and 46 have been considered but are moot in view of the new ground(s) of rejection.

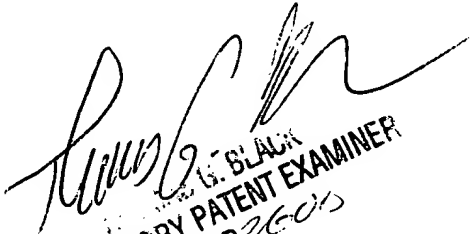
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Broadhead whose telephone number is 703-308-9033. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on 703-305-8233. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

BJB
April 22, 2004


THOMAS E. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3600